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ABSTRACT

The phenomenon of language is discussed and suggestions are made for using its unique aspects to enhance classroom second language teaching and learning. Five main points are made about language: (1) it differs in kind, not simply in degree, from other species' communicative behaviors; (2) the wonder of human language is rivaled by only one other representative system, the biological language of DNA; (3) human intelligence manifested in language, much like genetic processes, enables humans to connect the realm of facts and experience with that of concepts and propositions; (4) human intelligence and language capacity reveal representational powers and other characteristics that demonstrate that mind and language cannot be understood in material terms; and (5) these factors should affect the way teachers choose the methods, content, and language they use in the classroom. Contains 12 references. (MSE)

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The Wonder of Language

by Charles Browne and Joseph Poulshock

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"The tongue has the power of life and death..."
Hebrew Proverb[1]

Introduction: The Tongue Taken for Granted

The things we human beings are most likely to take for granted are the things that we use most often or surround us most frequently. We become grateful for the air we breathe perhaps when a fresh draft blows through a stuffy room or when we leave the smoggy city for a holiday in the mountains, but otherwise, we naturally (and regrettably) take our air for granted. It may also for many of us be the every-day essentials--including language. Regarding language, we may be amazed about it when we read great literature, or hear a baby's first words, but generally we take it for granted, overlooking it even as we use it.

However, upon closer investigation, we see that language is a phenomenon that cannot taken for granted. In fact, human language exhibits qualities that should secure it a place in the realm of wonder and awe. Hence, the main goal of this paper is to demonstrate some wondrous aspects of language suggest how they can enhance the joy of language teaching. Specifically, this paper discusses these five main points:

1. Human language differs uniquely in kind, not simply degree, from other species' communicative behaviors.
2. The wonder of human language is rivaled only by one other representational system--the biological language of DNA.
3. Similar to genetic processes, human intelligence through language enables humans innately to cross the abyss between the world of facts and experience and the realm of concepts and propositions.
4. Human intelligence and language capacity reveal representational powers and a host of other ethereal characteristics that demonstrate that mind and language cannot be understood or based in a purely materialistic manner.
5. These wondrous aspects of language should have a substantial effect on the way teachers choose the methods, the content, and the *words* they use in the language classroom.

The Uniqueness of Human Language

One way to come to a greater appreciation of the wonder of human language is to compare it with the communication systems of other species. It may be popularly assumed that human language is developmentally a degree or a number of degrees more advanced than the communication systems of chimps or gorillas, for example.

However, careful investigation bears out another story, that the difference between the communication systems of other animals and humankind is so different that *it is more like a difference in kind than in degree*.

An in depth overview is impossible here, but for example, Oller and Omdahl (1994) sum up the problems with primate language learning. Though some primates have demonstrated the capability to associate up to several hundred factual contexts immediately present in their experience with gestures, and the like, studies also clearly reveal that "there are several properties of the ordinary linguistic behavior of human children that no ape has ever been able to approximate" (261). That is, the apes exhibited no grammar, no ability to form questions, no language about language, and no abstract thought; they could only "sign" about the here and now.

Hence, in short, it seems that this intensively tutored ape communication is just that--an "aping of human communication," and this far, far short of the highly abstract and exquisitely complex ways humans use language. *Anthropoid communication is a far cry from human language*, and so the dictionary definition of the verb "to ape" is appropriate: "to mimic slavishly but often with an absurd result." Hence, language as we know it is a communication system unique to humans--a system that is so complex that it seems to be rivaled by only one other representational system: the bio-genetic language of DNA.

Human Language and Biological Language

The dictionary states that genetics is the "branch of biology that deals with heredity, especially the mechanisms of hereditary transmission," and that DNA is "a nucleic acid that carries the genetic information in the cell and is capable of self-replication." In these definitions, two words stand out: (1) ***transmission***, and (2) ***information***. That is, is a form of biological communication; and thus, DNA is considered the fundamental building block of all living things--and has therefore been called *the code of life*.

John Oller (a linguist) and John Omdahl (a biochemist) have explored the relationship between human and biological language. To briefly sum up their work, Oller and Omdahl demonstrate that even with a single-celled organism, "the cascading network of representational processes that determine the shape of the organism is exceedingly delicate, articulate, and complex" (1994, 253), and that complexity is multiplied by many orders of magnitude in human development. Moreover, DNA, "consisting of highly organized linear arrays of delicately structured biological texts" must copy itself faithfully to every single cell of an organism, consisting of billions of cells. *This copying and translating of lengthy and highly organized biological texts is like the writers of this paper trying find the words and syntax to fit a particularly true and accurate interpretation of the actual ideas that are being represented here.* Oller and Omdahl go on to state that the representational functions of both biological and human language are "exactly analogous" (1994, 254). That is, the way we linguistically represent our human experience is seemingly identical to the way DNA genetically represents hereditary experience.

In addition, human and biological language are not only similar in this way; they are also related in how DNA determines even the very existence of the human language capacity. That is, according to Chomsky and even some of his greatest detractors, there is abundant evidence in favor of some kind of genetic predisposition in humans for linguistic ability which would partially explain why other species' communication systems seem to differ not only in degree, but kind.

The Abysmal Gulf

As alluded to before in the section on other species' communicative systems, this aspect of kind relates to the fact that "apes are universally incapable of entering the realm of abstract thought" (Oller and Omdahl, 1994, 261). That is, they are unable to separate their communicative representations from the facts of experience; hence, their communicative ability does not move beyond the concrete--namely the here and now.

However, humans are able to perform many kinds of abstract forms of thought--from simple conditional propositions to complex mathematics.

We naturally take the ability to form abstract relations between mind and matter for granted, so it may not appear like such a wondrous process; however, upon closer examination, we find that this ability to think in the abstract represents a seemingly supra-physical feat. For example, it seems impossible to reduce the abstract functions of the mind and of language such as propositions, intentions, common sense, morality, logic laws, concepts, hypothesis, etc. into merely physical events. These are common everyday things, but they do not appear natural in the sense of physical, but they are still definitely real.

In addition to the evidently supra-physicality of these mental events, there is a literal, abysmal gulf between the world of facts and experience and the realm of these concepts and propositions. To illustrate, we have an infinite number of arbitrary signs to which we can attach meaning. For example, Bad means Good, according to Michael Jackson, and "rose" and "bara" mean the same thing in English and Japanese. Why do the words and sounds, expression and noises, phonemes and morphemes, the thingamabobs and whatchamacallits mean what they mean? As Shakespeare said:

> *What's in a name? that which we call a rose*
> *By any other name would still smell sweet.* [2]

Therefore, we cannot simply gather meaning from the sign or the sign from the meaning because there can be an infinite number of signs for the same meaning, or an infinite number of meanings can be appropriately symbolized by the same sign, so there clearly is an abysmal gulf. Hence, there cannot be a mechanically deterministic decision procedure for arriving at the meaning of the sign. That is, the ability to attach meanings to signs cannot simply be deduced from numbers, computation, and chance determinism. However, language and intelligence give us the ability to bridge this abyss, and hence, language points to a mind--a kind of intelligence that cannot simply be explained by a series of mechanically deterministic events.

Mind over Matter

Now at this point we have come to a deeply philosophical question, but one that also may have theoretical and practical bearing on us as linguists and language teachers. Is the mind merely a physical object, like the advocates of strong artificial intelligence think: a computer made of meat, or is the mind's language something more than this? Up to this point, we have briefly demonstrated the uniqueness, the complexity, and to some extent the wonder of language. Moreover, in the following section we will attempt to demonstrate that human intelligence and language capacity reveal representational powers and a host of other non-physical characteristics that require something more than a purely materialistic explanation.

The dictionary defines mind as: "the consciousness that originates in the brain and is manifested especially in thought, perception, emotion, will, memory, and imagination." Now the human mind is so amazing yet at the same time so common that we may need the gift of the poet to help us see the extraordinary in the ordinary.

From Wordsworth...

Not Chaos, not
The darkest pit of lowest Erebus,
Nor aught of blinder vacancy, scooped out
By help of dreams-can breed such fear and awe
As fall upon us often when we look
Into our Minds, into the Mind of Man. [3]

From Dickinson...

The Brain--is wider than the Sky--
For--put them side by side--
The one the other will contain
With ease--and you--beside. [4]

This mystery of the human mind is a subject that some of the greatest western thinkers from Socrates and Plato to Descartes and Kant have contemplated, and hence numerous theories of the mind abound. The list is long. There are monistic theories which attempt to reduce either mind or body to the other entity. Materialism, Identity Theory, and Idealism are three examples. There are also dualistic theories such as interactionism, occasionalism, parallelism, and epiphenomenalism. Nevertheless, in

spite of the way these theories differ, because of the existence of the host of non-physical events or realities evident in the human mind (logic, concepts, theories, moral values, etc.), we must say that utterly physicalistic descriptions of the mind are inadequate. For example, to say that the mind is solely a physical entity (a computer made of meat), is to contradict one's self. That is, by saying that the mind is solely a thing of matter, we remove the possibility of rational thought by not allowing for the essential aspects of rationality which are primarily non-material realities. Therefore, as it seems clear that the non-physical events of the mind are indeed real, then we are faced with the question as to how the mind and its language could be grounded in physical matter, and at this point we return to our comparison between human language and biogenetic language.

The idea that the mind is a completely physical entity, assumes that it must emerge from mindless, non-rational matter. However, mental events cannot emerge from matter, for to do so would mean that these events must come from nothing--or as some have contented from some kind of mental potentiality in matter. However, first and most importantly, it is a generally accepted principle that *something cannot come from nothing*. Second, if the mind and language could come from some kind of mental potentiality in matter, then we are faced with the problem that matter "is no longer describable in terms of familiar physical properties and laws alone. Now it contains elusive mental properties" (Moreland 1987, 101), and this question of even a hint of mental potentiality in matter is quite frustrating to a purely physicalistic explanation of the mind.

Moreover, the same can be said for biogenetic language. The genetic message in DNA distinguishes living things from non-living things. Non-living things have no genetic system, and living things have a genetic system. And it is impossible to transfer the genetic code from a non-living thing to a living thing. That is, exceedingly complex biogenetic life does not naturally emerge from matter. At this point, we have moved from philosophical reasoning to hard number-crunching physical science. For

example, Hubert Yockey and Michael Denton, two of the world's foremost molecular biologists, have demonstrated in a most rigorous fashion that strictly natural processes do not explain the existence of living genetic systems, *that life is not implicit in matter*. (See Denton 1986 and Yockey, 1992). ***Hence the analogy holds: roses do not arise from rocks.***

Moreover, as demonstrated by Denton and Yockey, matter itself does not contain the ability to produce the highly articulate, and exquisite design of DNA. This is the same DNA which to the best of our knowledge contains the design, as in Chomsky's innate structures, for the human language capacity. Furthermore, in the same way that purely physical matter cannot produce DNA and the language capacity inherent in it, neither can we attribute physical causes to the non-physical realities of the human mind (including language). Hence, in short, it seems that the best explanation for the existence of biogenetic and human language cannot be stated in simply physicalistic terms. Therefore, it is a reasonable hypothesis that the basis of the human mind and its language must be understood in terms of wonder, awe, or the preternatural--if you will--in terms of transcendence--of categories that exist above and are independent of material experience.

The Wonder in the Language Class

Up to this point we have tried to demonstrate that there clearly is an abyss between the facts we experience and the signs we use to represent that experience. Moreover, we have also tried to show that strictly physical processes cannot account for the existence of the biogenetic code and human linguistic codes, as well as the non-physical events or realities of the mind which are basic to linguistic competency. We have tried to show that the human mind is a literal wonder. Whatever conclusion our readers deduce from these theses, it seems safe to assume that at least most will concur that human language and thus human beings are wondrous. It is with these thoughts in mind that we now turn our attention to how this wonder of language affects our lives and pedagogy in the language classroom.

Conclusion

In conclusion, we have discussed the wondrous nature of human language: how it differs in kind from other species' communicative behaviors, how it seems exactly analogous to the biogenetic language of DNA, and how language enables us to bridge the abyss between mind and matter. We have contended that non-physical mental events such as theories, intentions, and values demonstrate that the mind and its language cannot be explained in any purely physicalistic manner. Hence, we have concluded that the following should be considered as a valid and reasonable hypothesis for the grounding of language: i.e., language and the mind may be best understood and explained in terms of wonder--as events that cannot be reduced to the observed processes of nature. That is, the mind's language is a phenomenon which cannot be attenuated to mere physicality, but instead must be seen as something sublime and seemingly verging on the preternatural. Thus, the basis of the human language capacity and its inherent capability to bridge the abyss between mind and matter may be best explained in categories that transcend matter and materiality. As we define these categories, we will need to deal with questions about the origin of language; thus, both definitions of these transcendent categories and questions about the origin of language need to be a part of a future research agenda about the wonder of language.

In addition to and from these theoretical implications, we can derive practical applications for language teaching pedagogy, mainly that the inspirational and motivational aspects of language teaching can be enhanced through content-based language education and through direct and indirect instruction in the marvel of language. Moreover, our understanding of the wondrous nature of language will affect the way we use language in class--as we realize that words and word-using-people are not merely ordinary elements in the language teaching matrix--but rather extraordinary. Therefore they are worthy of extraordinary esteem, treatment, and consideration. Thus, in short--if we can advance the level of awe for language--and the admiration of human learners, then we believe that teachers and learners will experience a deeper joy in the process of teaching and learning languages. For in the words of Albert Einstein

(whose thinking is foundational to Oller and Omdahl's and our thesis): "It is the supreme art of the teacher to awaken joy in creative expression and knowledge."[5]

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[1] The Book of Proverbs, Chapter 18, verse 21.

[2] Romeo and Juliet, Act 2.2, line 43.

[3] William Wordsworth (1770-1850), English poet. The Excursion, Preface. From The Columbia Dictionary of Quotations, Copyright © 1993 by Columbia University Press.

[4] Emily Dickinson (1830-86), US poet. The Complete Poems, no. 632 (1955). Dickinson, Emily. 1955. From The Columbia Dictionary of Quotations, Copyright © 1993 by Columbia University Press.

[5] Albert Einstein (1879-1955), German-born US physicist. Motto for the astronomy building of Junior College, Pasadena, California.